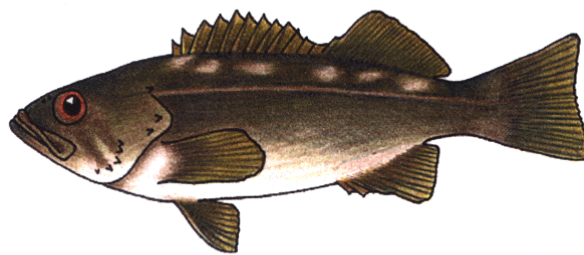


Olive Rockfish, *Sebastes serranoides*

1993-1999 Commercial Catch by Ports & Blocks



Marine Fishery Profiles

Volume 1: Nearshore

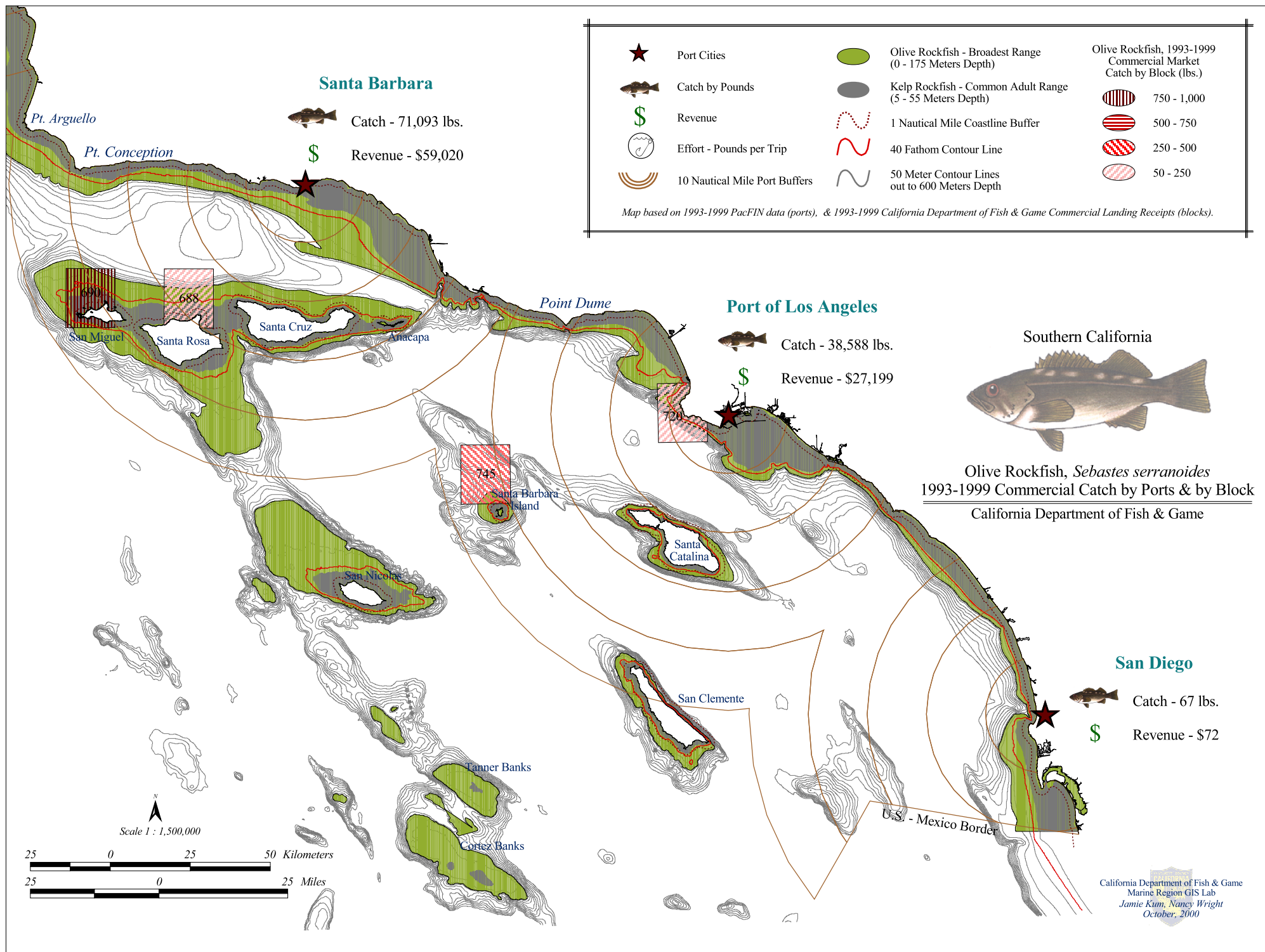
Marine Region GIS Lab

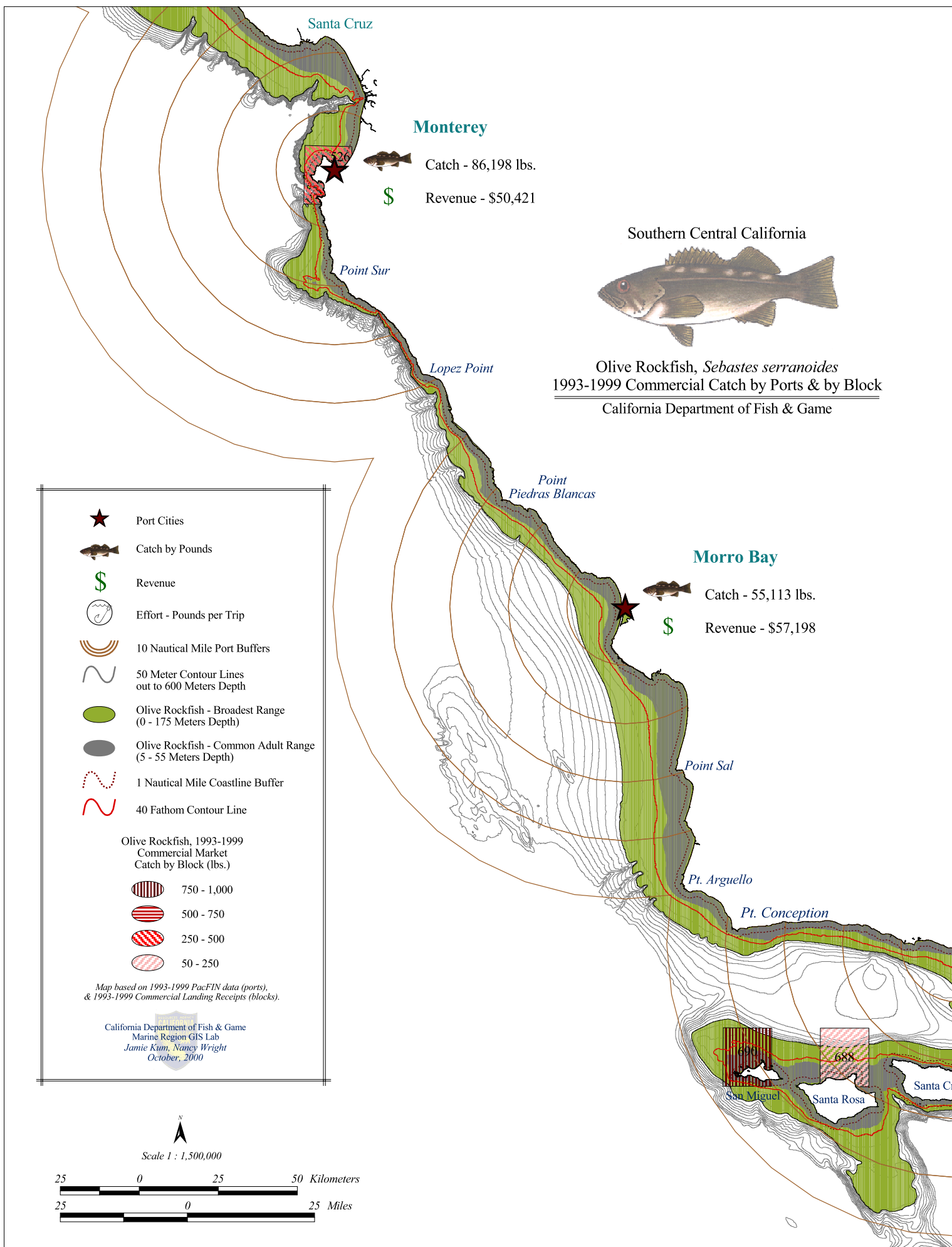
Nancy Wright	Eric Knaggs
Jamie Kum	Bob Leos
Chad King	Colleena Perez



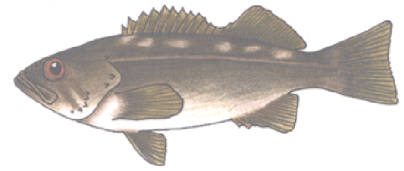
California Department of Fish & Game
Marine Region

December 2000





Northern Central California



Olive Rockfish, *Sebastes serranoides*
1993-1999 Commercial Catch by Ports & by Block

California Department of Fish & Game

Bodega Bay



Catch - 58,029 lbs.



Revenue - \$26,898

San Francisco



Catch - 6,700 lbs.



Revenue - \$5,399

Half Moon Bay

Point Año Nuevo

Santa Cruz

Monterey



Catch - 86,198 lbs.



Revenue - \$50,421

Point Sur

Lopez Point

Point
Piedras Blancas

- Port Cities
- Catch by Pounds
- Revenue
- Effort - Pounds per Trip
- 10 Nautical Mile Port Buffers
- 50 Meter Contour Lines out to 600 Meters Depth
- Olive Rockfish - Broadest Range (0 - 175 Meters Depth)
- Olive Rockfish - Common Adult Range (5 - 55 Meters Depth)
- 1 Nautical Mile Coastline Buffer
- 40 Fathom Contour Line

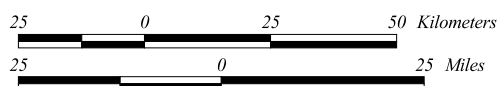
Olive Rockfish, 1993-1999
Commercial Market
Catch by Block (lbs.)

- 750 - 1,000
- 500 - 750
- 250 - 500
- 50 - 250

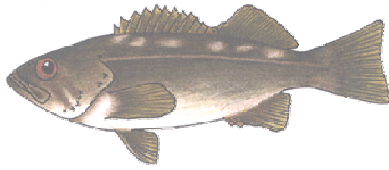
Map based on 1993-1999 PacFIN data (ports),
& 1993-1999 Commercial Landing Receipts (blocks).

California Department of Fish & Game
Marine Region GIS Lab
Jamie Kum, Nancy Wright
October, 2000

Scale 1 : 1,500,000



Northern California



Olive Rockfish, *Sebastes serranoides* 1993-1999 Commercial Catch by Ports & by Block California Department of Fish & Game

- ★ Port Cities
- Catch by Pounds
- \$ Revenue
- Effort - Pounds per Trip
- 10 Nautical Mile Port Buffers
- 50 Meter Contour Lines out to 600 Meters Depth
- Olive Rockfish - Broadest Range (0 - 175 Meters Depth)
- Olive Rockfish - Common Adult Range (5 - 55 Meters Depth)
- 1 Nautical Mile Coastline Buffer
- 40 Fathom Contour Line

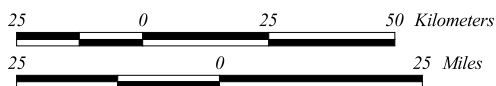
Olive Rockfish, 1993-1999
Commercial Market
Catch by Block (lbs.)

- 750 - 1,000
- 500 - 750
- 250 - 500
- 50 - 250

Map based on 1993-1999 PacFIN data (ports),
& 1993-1999 Commercial Landing Receipts (blocks).

California Department of Fish & Game
Marine Region GIS Lab
Jamie Kim, Nancy Wright
October, 2000

Scale 1 : 1,500,000



Crescent City



Catch - 252 lbs.



Revenue - \$504

Eureka



Catch - 394 lbs.



Revenue - \$242

Cape Mendocino

Punta Gorda

Fort Bragg



Catch - 825 lbs.



Revenue - \$3,304

Point Arena

Figure 1. (refer to table 1) CDFG Commercial Receipts Data (1993 - 1999)
Total Pounds of Olive Rockfish Caught and Average Price per Pound by Month

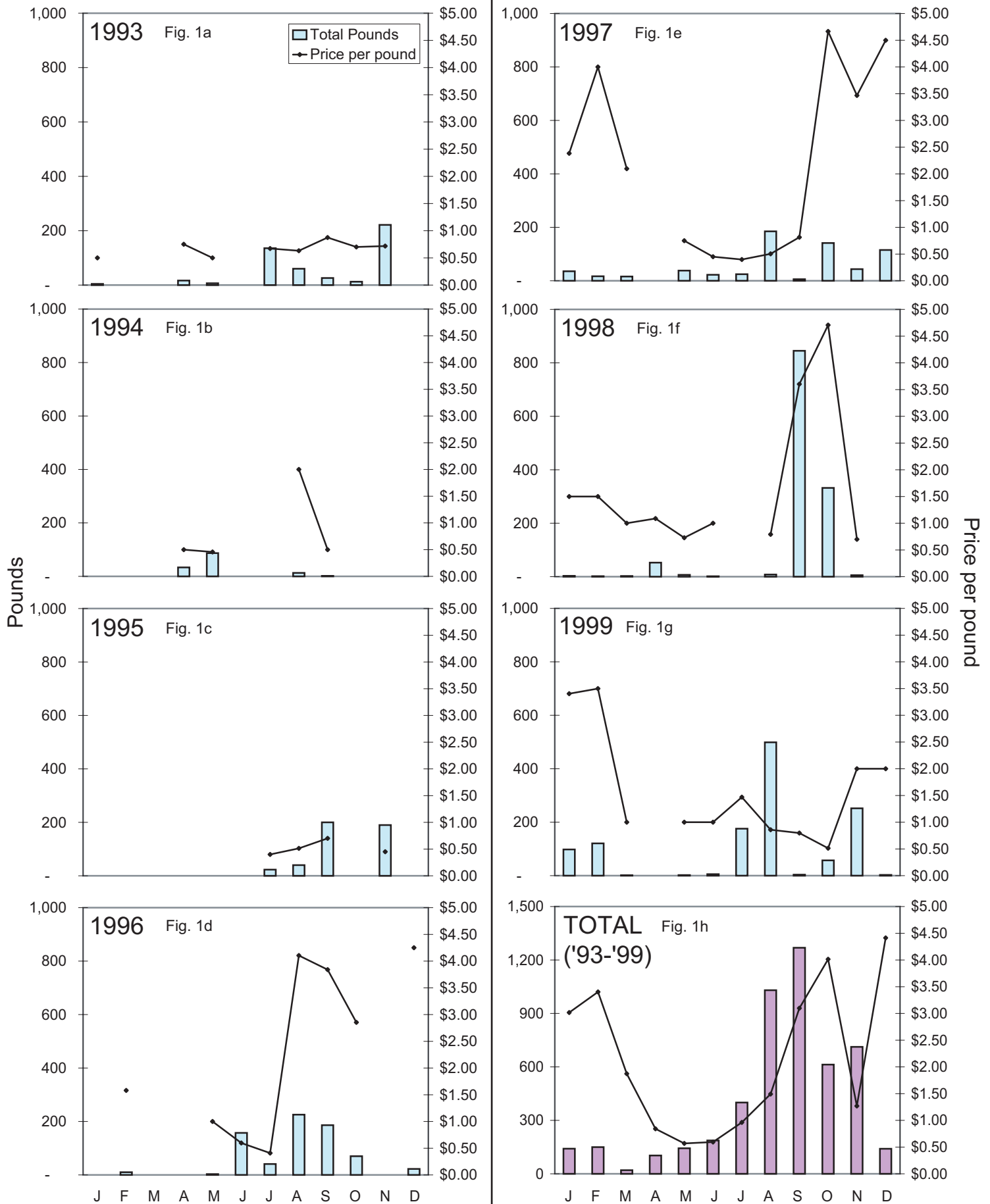


Table 1. (refer to fig. 1) CDFG Commercial Receipts Data (1993 - 1999)
Total Pounds of Olive Rockfish Caught and Average Price per Pound by Month

1993
Table 1a

Month	Total Pounds	Price per Pound
Jan	4	\$0.50
Feb	no data	no data
Mar	no data	no data
Apr	17	\$0.75
May	7	\$0.50
Jun	no data	no data
Jul	136	\$0.67
Aug	60	\$0.63
Sep	26	\$0.88
Oct	13	\$0.70
Nov	221	\$0.72
Dec	no data	no data
Total	483	\$0.70

1997
Table 1e

Month	Total Pounds	Price per Pound
Jan	36	\$2.38
Feb	17	\$4.00
Mar	16	\$2.10
Apr	no data	no data
May	38	\$0.75
Jun	23	\$0.45
Jul	25	\$0.40
Aug	185	\$0.50
Sep	6	\$0.81
Oct	141	\$4.67
Nov	44	\$3.47
Dec	115	\$4.50
Total	645	\$2.58

1994
Table 1b

Month	Total Pounds	Price per Pound
Jan	no data	no data
Feb	no data	no data
Mar	no data	no data
Apr	34	\$0.50
May	87	\$0.46
Jun	no data	no data
Jul	no data	no data
Aug	13	\$2.00
Sep	2	\$0.50
Oct	no data	no data
Nov	no data	no data
Dec	no data	no data
Total	135	\$0.61

1998
Table 1f

Month	Total Pounds	Price per Pound
Jan	3	\$1.50
Feb	2	\$1.50
Mar	2	\$1.00
Apr	53	\$1.09
May	7	\$0.73
Jun	2	\$1.00
Jul	no data	no data
Aug	8	\$0.79
Sep	845	\$3.60
Oct	332	\$4.71
Nov	5	\$0.70
Dec	no data	no data
Total	1,259	\$3.73

1995
Table 1c

Month	Total Pounds	Price per Pound
Jan	no data	no data
Feb	no data	no data
Mar	no data	no data
Apr	no data	no data
May	no data	no data
Jun	no data	no data
Jul	23	\$0.40
Aug	40	\$0.51
Sep	200	\$0.70
Oct	no data	no data
Nov	190	\$0.45
Dec	no data	no data
Total	453	\$0.56

1999
Table 1g

Month	Total Pounds	Price per Pound
Jan	98	\$3.40
Feb	121	\$3.50
Mar	2	\$1.00
Apr	no data	no data
May	2	\$1.00
Jun	6	\$1.00
Jul	176	\$1.47
Aug	499	\$0.86
Sep	4	\$0.80
Oct	57	\$0.51
Nov	252	\$2.00
Dec	3	\$2.00
Total	1,218	\$1.64

1996
Table 1d

Month	Total Pounds	Price per Pound
Jan	no data	no data
Feb	10	\$1.58
Mar	no data	no data
Apr	no data	no data
May	3	\$1.00
Jun	157	\$0.60
Jul	41	\$0.41
Aug	225	\$4.10
Sep	186	\$3.84
Oct	70	\$2.85
Nov	no data	no data
Dec	23	\$4.25
Total	715	\$2.89

TOTAL
'93 - '99
Table 1h

Month	Total Pounds	Price per Pound
Jan	141	\$3.02
Feb	150	\$3.40
Mar	20	\$1.87
Apr	103	\$0.84
May	143	\$0.57
Jun	187	\$0.59
Jul	400	\$0.96
Aug	1,030	\$1.49
Sep	1,268	\$3.10
Oct	613	\$4.01
Nov	713	\$1.27
Dec	140	\$4.41
Total	4,908	\$2.26

Figure 2. (refer to table 2) Pacific Fisheries Information Network Data (1993 - 1999)
Total Pounds of Olive Rockfish Caught and Average Price per Pound by Month

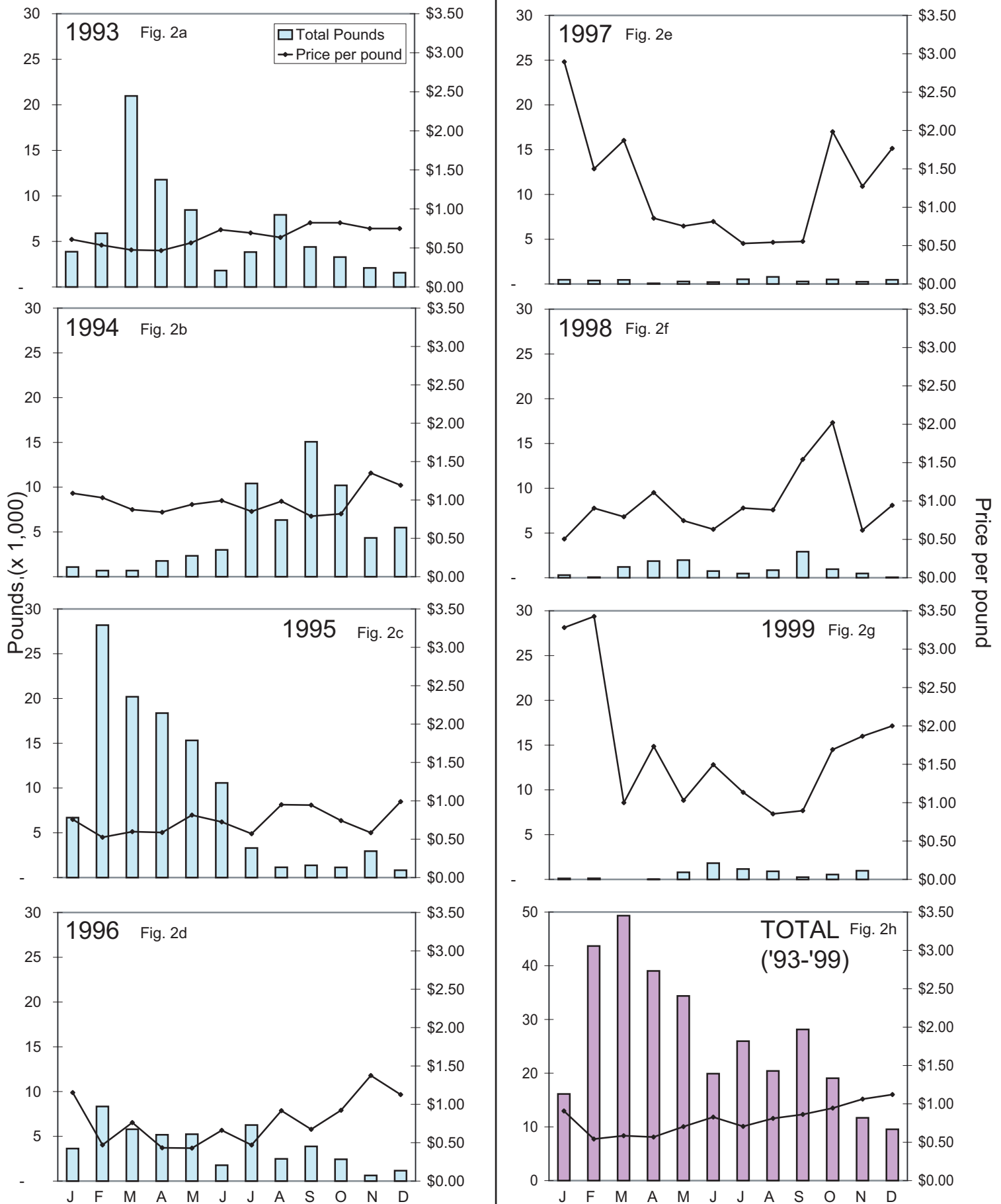


Table 2. (refer to fig. 2) Pacific Coast Fisheries Information Network Data (1993 - 1999)
Total Pounds of Olive Rockfish Caught and Average Price per Pound by Month

1993
Table 2a

Month	Total Pounds	Price per Pound
Jan	3,867	\$0.61
Feb	5,895	\$0.54
Mar	20,979	\$0.47
Apr	11,779	\$0.47
May	8,454	\$0.56
Jun	1,801	\$0.73
Jul	3,831	\$0.69
Aug	7,918	\$0.63
Sep	4,393	\$0.82
Oct	3,283	\$0.82
Nov	2,089	\$0.75
Dec	1,563	\$0.75
Total	75,852	\$0.58

1997
Table 2e

Month	Total Pounds	Price per Pound
Jan	466	\$2.89
Feb	383	\$1.50
Mar	464	\$1.87
Apr	70	\$0.86
May	273	\$0.75
Jun	215	\$0.81
Jul	521	\$0.53
Aug	795	\$0.54
Sep	276	\$0.55
Oct	510	\$1.98
Nov	246	\$1.27
Dec	471	\$1.77
Total	4,690	\$1.33

1994
Table 2b

Month	Total Pounds	Price per Pound
Jan	1,074	\$1.09
Feb	679	\$1.03
Mar	685	\$0.87
Apr	1,758	\$0.84
May	2,334	\$0.94
Jun	2,996	\$0.99
Jul	10,416	\$0.85
Aug	6,328	\$0.98
Sep	15,071	\$0.79
Oct	10,204	\$0.82
Nov	4,335	\$1.35
Dec	5,486	\$1.19
Total	61,366	\$0.93

1998
Table 2f

Month	Total Pounds	Price per Pound
Jan	293	\$0.51
Feb	64	\$0.91
Mar	1,211	\$0.79
Apr	1,864	\$1.11
May	1,972	\$0.74
Jun	744	\$0.63
Jul	469	\$0.91
Aug	850	\$0.88
Sep	2,911	\$1.54
Oct	954	\$2.02
Nov	481	\$0.62
Dec	54	\$0.94
Total	11,867	\$1.11

1995
Table 2c

Month	Total Pounds	Price per Pound
Jan	6,693	\$0.76
Feb	28,195	\$0.53
Mar	20,198	\$0.60
Apr	18,368	\$0.59
May	15,317	\$0.81
Jun	10,571	\$0.73
Jul	3,303	\$0.57
Aug	1,140	\$0.95
Sep	1,367	\$0.94
Oct	1,132	\$0.74
Nov	2,950	\$0.58
Dec	817	\$0.99
Total	110,051	\$0.64

1999
Table 2g

Month	Total Pounds	Price per Pound
Jan	110	\$3.28
Feb	124	\$3.43
Mar	2	\$1.00
Apr	15	\$1.73
May	790	\$1.03
Jun	1,819	\$1.49
Jul	1,161	\$1.13
Aug	901	\$0.85
Sep	250	\$0.90
Oct	542	\$1.69
Nov	968	\$1.87
Dec	3	\$2.00
Total	6,685	\$1.40

1996
Table 2d

Month	Total Pounds	Price per Pound
Jan	3,632	\$1.15
Feb	8,329	\$0.47
Mar	5,784	\$0.76
Apr	5,171	\$0.43
May	5,231	\$0.43
Jun	1,766	\$0.66
Jul	6,262	\$0.47
Aug	2,480	\$0.92
Sep	3,868	\$0.67
Oct	2,436	\$0.92
Nov	627	\$1.37
Dec	1,162	\$1.13
Total	46,748	\$0.65

TOTAL
'93 - '99
Table 2h

Month	Total Pounds	Price per Pound
Jan	16,135	\$0.91
Feb	43,669	\$0.54
Mar	49,323	\$0.59
Apr	39,025	\$0.57
May	34,371	\$0.70
Jun	19,912	\$0.83
Jul	25,963	\$0.71
Aug	20,412	\$0.81
Sep	28,136	\$0.86
Oct	19,061	\$0.94
Nov	11,696	\$1.06
Dec	9,556	\$1.12
Total	317,259	\$0.73

Abbreviated Life History of the Olive Rockfish (*Sebastes serranoides*)

Olive rockfish are one of several nearshore *Sebastes* associated primarily with the midwater region of kelp forest of the California coast. They are streamlined fish with almost no head spines. Their body color is dark brown or dark green-brown on the back and light brown or green-brown on the sides.

Distribution, Stock Structure and Migration

Olive rockfish occur from southern Oregon to Islas San Benitos (central Baja California) from surface waters to 570 ft. They are common from about Cape Mendocino to Santa Barbara and around the northern Channel Islands from surface waters to about 396 ft.

Tagging studies have found that olive rockfish move relatively little, ranging from less than one mile. This species has been variously described as transient or residential.

Age and Growth

Ageing of otoliths has shown that olive rockfish live at least 25 yr. Females grow larger, and, beginning at maturation, tend to be longer at a given age. The maximum reported length of olive rockfish is 24 inches. This is one of the fastest-growing nearshore rockfishes. Based on whole otoliths, a 10-in. TL fish is approximately 2-3 yr old, a 15-in. TL fish is approximately 10 yr old, and an 18-in. TL fish is approximately 10 yr old.

Reproduction, Fecundity and Seasonality

Throughout California, males mature at a somewhat smaller size and a slightly greater age than females, however the difference is not large. First maturity for males ranges from 10.6 (no age given) to 12.6 in. (4 yr). First maturity for females ranges from 11.2 (no age given) to 12.6 in. (4 yr). Fifty percent maturity for males occurs between 12.6 and 13.0 in. (both 5 yr), while 50% maturity for females occurs between 13.4 (4 yr) and 13.8 in. (5 yr).

Mating occurs in the fall and females release larvae once a year in the winter from December through March, peaking in January. Larvae are planktonic for 3 to 6 months, then from April to September, young-of-the-year olive rockfish, around 1.2 to 1.6 inches long, settle out of the plankton.

Natural Mortality	No information was found on natural (or fishing) mortality of olive rockfish.
Diseases	No information is available concerning diseases in olive rockfish.
Predator/Prey Relationships	Juvenile olives feed on crustaceans, juvenile fishes, polychaetes, octopi and squid. Juvenile olives become more active at night, but it is not clear whether adult olives are nocturnal: they do feed commonly on octopi, which are more available at night. Adult olive rockfish feed on fish (especially juvenile rockfishes), small crustaceans, polychaetes, cephalopods and tunicates. Adults are preyed upon by sharks, dolphins, and pinnipeds such as seals and sea lions. Juveniles fall prey to other rockfishes, lingcod, cabezon, salmon, albacore, birds, and porpoise.
Competition	Olive rockfish are known to compete with the kelp bass (<i>Paralabrax clathratus</i>) for food and shelter in southern and central California where their ranges overlap. Though olive rockfish have been associated with surfperches and bocaccio, and are frequently observed among schooling blue rockfish, no information on competition among them was found.
Critical Habitat	<p>As with all rockfishes, the larval stage of olive rockfish is planktonic. When young-of-the-year olive rockfish settle out of the plankton they are most commonly found in and around kelp beds, oil platforms, surfgrass and other structures at depths as shallow as 10 ft. Sub-adult and adult olives live over high-relief reefs, as well as around the midwaters of oil platforms. In shallow waters, they are found throughout the water column in and around kelp beds, and are known to rest on the bottom as well.</p> <p>The movement patterns of olive rockfish may be limited by the presence or absence of kelp beds. It has been shown that the abundance of olive rockfish decreases as beds of <i>Macrocystis</i> are removed.</p>
Status of Stocks	There has been no stock assessment of this species. However, there is clear evidence from sport fish catch records that olive rockfish have declined in abundance south of Point Conception.

